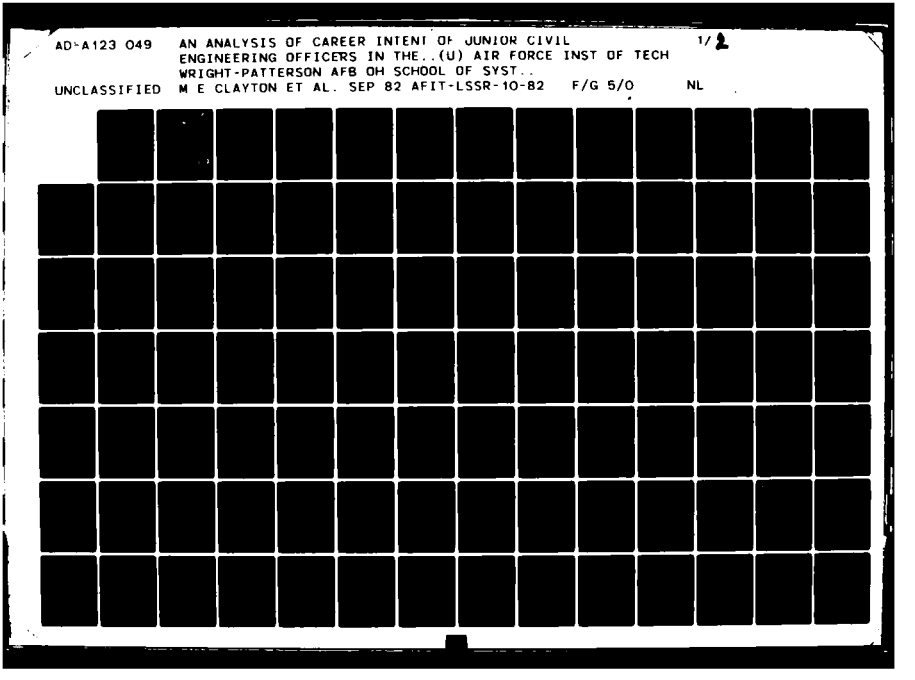
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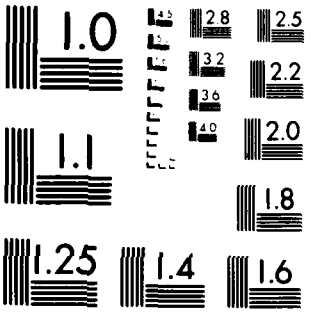

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY (ATC)

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

AN ANALYSIS OF CAREER INTENT OF JUNIOR CIVII ENGINEERING OFFICERS IN THE AIR FORCE AND NAVY

Michael E. Clayton, Captain, USAF
Harold A. Mercer, Major, USMC

LSSR 10-82

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER LSSR 10-82	2. GOVT ACCESSION NO. AD A125 [illegible]	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) AN ANALYSIS OF CAREER INTENT OF JUNIOR CIVIL ENGINEERING OFFICERS IN THE AIR FORCE AND NAVY		5. TYPE OF REPORT & PERIOD COVERED Master's Thesis 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Michael E. Clayton, Captain, USAF Harold A. Mercer, Major, USMC		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS School of Systems and Logistics Air Force Institute of Technology, WPAFB OH		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Department of Communication and Humanities AFIT/LSH, WPAFB OH 45433		12. REPORT DATE September 1982 13. NUMBER OF PAGES 94
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

APPROVED FOR PUBLIC RELEASE: IAW AFR 190-17

2 SEP 1982

LYNN E. WOLAVER
Dean for Research and
Professional Development

AIR FORCE INSTITUTE OF TECHNOLOGY (ATC)
WRIGHT-PATTERSON AFB, OH 45433

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

CAREER INTENT
CIVIL ENGINEERS
VOLUNTARY SEPARATION
RETENTION
TURNOVER

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Thesis Chairman: Lieutenant Colonel Arthur T. King

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This study examined the factors influencing career intent decisions among Air Force and Navy junior officers serving in the civil engineering career field. These factors were examined through administration of questionnaires to a random sampling of Air Force and Navy junior civil engineering officers, worldwide. Each questionnaire focused on the following five major areas: demographics, an officer's career intent, the impact of offering a regular commission upon career intent, attitudinal questions, and motivational factors. The results indicated that policy and administration, salary, personal life, working conditions, and work itself most influenced an officer's career intent decision. Responsibility and working conditions were found to be the strongest predictors which affected career intent positively. In contrast, the two strongest predictors, feeling of achievement and personal life, were found to negatively impact upon an officer's career intent decision. Finally, the offer of a regular commission only slightly influenced an officer's career intent decision. Based upon these results, it can be concluded that Air Force and Navy officers have similar perceptions which affect their career intent decisions.

LSSR 10-82

AN ANALYSIS OF CAREER INTENT OF JUNIOR CIVIL ENGINEERING OFFICERS IN THE AIR FORCE AND NAVY

A Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Engineering Management

By

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September 1982

This thesis, written by

Captain Michael E. Clayton

and

Major Harold A. Mercer

has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN ENGINEERING MANAGEMENT

DATE: 29 September 1982

COMMITTEE CHAIRMAN

ACKNOWLEDGEMENTS

We wish to thank Major Nick Ovalle from the Behavioral Sciences Department for his guidance and instruction on factor analysis.

Major Underwood, USAF; Captain Frauenfelder and Lieutenant Commander Thomas, USN; deserve thanks for providing us with retention data, and lists of names of junior civil engineering officers in the Air Force and Navy. Without their assistance, administration of our survey would not have been possible.

We would also like to take this opportunity to express our sincere thanks to First Lieutenant Burns, USAF; and Airman First Class Grieg, USAF. Through their unceasing support, the computer analysis of our data was completed.

Additionally, we are indebted to Ms. Patricia Strain for editing and proofreading our thesis. Through her diligent efforts she contributed immeasurably to the successful completion of this thesis.

Finally, we wish to express our thanks and appreciation to our thesis advisor, Lieutenant Colonel Arthur T. King. Without his support and patience, completion of this thesis would not have been possible.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Background

> A huge investment is lost when a good executive leaves the organization regardless of how qualified his replacement may be because he takes with him the years of training, of knowledge, and of corporate know-how [29:79].

The preceding quote describes a major problem facing the Air Force and Navy with their turnover rate of junior civil engineering officers (24; 26). (See Tables 1 and 2.) As evidenced by Tables 1 and 2, the Air Force and Navy are gradually becoming more deficient in the 0-3 grade, with overages in the 0-1 grade. Additionally, the Navy is extremely deficient in the 0-2 grade. Thus, the career intent of junior officers changes negatively within the first five years of active military service and may present a future retention problem. This retention problem has become prominent since the advent of the All Volunteer Force in 1973 (6:1). As a result of the All Volunteer Force policy, the Air Force and Navy must now compete more actively with civilian organizations for limited civil engineering manpower resources. This competition has become extremely keen when attempting to retain military civil engineering officers (6:1).

TABLE 1

AIR FORCE OFFICER REQUIREMENTS FOR AFSC 55XX (26)

Year	Grade	Authorized	Assigned	Percent
1976	0-3	791	659	83
	0-2/0-1	332	460	100+
1977	0-3	825	625	76
	0-2/0-1	321	483	100+
1978	0-3	812	588	72
	0-2/0-1	305	496	100+
1979	0-3	679	517	76
	0-2/0-1	456	550	100+
1980	0-3	853	512	60
	0-2/0-1	355	632	100+
1981	0-3	945	538	57
	0-2/0-1	357	723	200+

TABLE 2

NAVY OFFICER REQUIREMENTS FOR DESIGNATOR NUMBERS 5100 AND 5105 (24)

Year	Grade	Authorized	Assigned	Percent
1979	0-3	348	338	97
	0-2	223	180	80
	0-1	138	143	100+
1980	0-3	350	340	96
	0-2	222	191	86
	0-1	138	142	100+
1981	0-3	373	338	90
	0-2	319	173	79
	0-1	142	203	100+

Therefore, it has become essential for the two services to place emphasis on methods to retain junior civil engineering officers (3:10; 8:1). Without this emphasis, the impact will be detrimental in two respects (30:2). First, there are two types of costs associated with replacing a lost officer. These include the procurement and training costs associated with bringing a new Second Lieutenant/Ensign into the civil engineering career field; i.e., recruiting, physicals, and training. Second, the continuing high loss rate of civil engineering officers creates problems of maintaining continuity in the middle management of civil engineering. This lack of continuity can result in operating inefficiently, thus creating costs (30:3).

Problem Statement

The purpose of this study is to examine the attitudinal/motivational factors affecting the career intent of Air Force and Navy junior civil engineering officers[1] that could possibly present a retention problem in the future. The retention problem causes a continuity problem when these officers reach the senior company grades where they provide the critical middle management expertise for

[1]Officers considered for this study had five years or less total commissioned service.

civil engineering functions, then decide not to complete a career in the Air Force/Navy.

Justification for Research

Due to the changing career intent of many junior civil engineering officers in the Air Force and Navy, retention is predicted to continue to be a problem (24; 26). Through extensive collection and analysis of data from the randomly selected civil engineering officers, the factors affecting career intent are identifiable. The factors identified, if corrected, could possibly assist in preventing future retention problems and their associated costs.

Scope

Many motivational factors for organizational turnover have been identified in the literature review. Of the motivational factors identified, fifteen have consistent support (8:14-17). The fifteen factors are: achievement, advancement, growth, patriotism, recognition for achievement, responsibility, work itself, interpersonal relations, personal life, policy and administration, salary, status, supervision, working conditions, and security. These factors will be used in the conduct of this study. The definitions of the factors are included in Chapter III.

This study will be strictly limited to Air Force and Navy civil engineering officers in the grades of 0-1

through 0-3 who have five years or less total commissioned service. The research involves engineers from a wide variety of civil engineering positions.

Finally, the retention factors between the Air Force and Navy civil engineer officers will be compared to determine if career intent is affected by the same factors.

Research Objectives

The overall objective of this research effort is to determine the factors affecting career intent of Air Force and Navy junior officers serving in the civil engineering field. These factors could contribute to a retention problem in the future.

The specific subobjectives of this research effort are:

1. To determine the major factors which most influence the individual not to complete a career in the Air Force/Navy.

2. To determine the motivational factors that affect career planning.

3. To determine if a relationship exists between the job attitudes held by a junior officer and career intent.

4. To determine if offering a regular commission to a junior officer affects his/her career intent.

5. To compare the results of the preceding analyses for the Air Force and Navy civil engineers.

Research Questions

To direct the efforts in this research, the following research questions were framed:

1. Does the junior civil engineering officer consider the following: policy and administration, work itself, supervision, working conditions, and the inability to plan personal life, to be the major factors which most influence him not to complete a career in the Air Force/ Navy?

2. Does the junior civil engineering officer consider the following: achievement, advancement, status, professional growth, patriotism, recognition for achievement, responsibility, interpersonal relations, security, and salary, to be secondary factors which influence his career planning?

3. Is there a direct relationship between the job attitudes held by junior officers in the civil engineering field and career intent?

4. Does the offer of a regular commission appreciably affect the career intent of junior civil engineering officers?

5. Do similarities exist from the preceding analyses between Air Force and Navy civil engineers?

CHAPTER II

LITERATURE REVIEW

Introduction

One of the major goals of military managers is the retention of skilled junior officers with a high degree of job satisfaction, since satisfied people are more productive (10:141). To achieve this goal, military managers are increasingly placing emphasis on developing motivational programs designed to attain a high level of job satisfaction (8:2).

The major discipline used to understand the true determinants of job satisfaction and retention has been the behavioral sciences. Through these sciences several factors have been identified which directly affect job satisfaction and retention. For this reason, these factors, and their relation to job satisfaction, have become a focal point of vigorous research and analysis.

The focus of this literature review is to summarize some of the research and analysis on job satisfaction and retention. The review will be divided into two sections. The first section will discuss Frederick Herzberg's Two-Factor theory. Additionally, this section will review several other studies related to Herzberg's theory. The

second section will discuss the military literature on retention and job satisfaction. Finally, the last section will summarize the findings of the previous two sections.

Herzberg's Two-Factor Theory

This thesis effort is based primarily upon the motivational theory set forth in Frederick Herzberg's Two-Factor theory. Its discussion is pertinent to our research because it has formed one of the foundations for discussing the subject of motivation (2:240).

Herzberg suggested that it is a fallacy to assume that a person who is not dissatisfied with his job is therefore satisfied (15:45).

> To prove his point, he and two colleagues performed a study in 1958 of 200 engineers and accountants to test the hypothesis that man has two sets of needs, in relation to motivation, which are essentially independent of each other [7:20].

From this study they developed a list of factors which caused job satisfaction as well as job dissatisfaction.

The factors developed from this study were divided into satisfiers and dissatisfiers. In other studies they are commonly called motivators and hygiene factors, respectively. The satisfiers were found to lead to job satisfaction, whereas the dissatisfiers were found to lead to job dissatisfaction (17:370).

According to the theory, the satisfiers are related to the nature of the work itself and the rewards that flow

directly from the performance of that work. The most significant of these are those characteristics that foster the individual's needs for self-actualization and self-realization in his work (17). These work-related or intrinsic factors are achievement, recognition for achievement, the work itself, responsibility, and growth or advancement (16:57).

The dissatisfaction factors are associated with the individual's relationship to the context or environment in which he does his work. The most important of these is company policy and administration that promotes ineffectiveness or inefficiency within the organization. The second most important is incompetent technical supervision--supervision that lacks knowledge of the job to delegate responsibility and teach (17). These dissatisfaction factors include the following: company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security (16:57).

To evaluate the effects of satisfiers and dissatisfiers upon job satisfaction, Herzberg applied two major research techniques. These included the "critical incident technique"[1] and the questionnaire method.

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[1]The critical incident technique consisted of asking a respondent to describe a specific incident from work in which he was either satisfied or dissatisfied. Through this technique, dissatisfying and satisfying factors were determined (15).

Critical Incident Technique

Myers. Applying the critical incident technique, Myers (19) conducted a six-year study of job satisfaction at Texas Instruments, Incorporated. This study consisted of 282 male scientists, engineers, supervisors, technicians, and 52 female hourly assemblers. Myers clearly pointed out that the factors in a job that motivate employees were different from the factors that made the employee dissatisfied with the job. By totaling the responses of the different types of employees, Myers found that factors intrinsic to the job, generally related to job satisfaction and factors extrinsic to the job, correlated to job dissatisfaction. Salary, a dissatisfier, correlated equally with both satisfaction and dissatisfaction. Myers also found a difference in the responses between engineers, technicians, and female assemblers. The technicians and female assemblers placed the factor Responsibility in the satisfier area as relating to job satisfaction. On the other hand, engineers considered Responsibility more of a dissatisfier than a satisfier. This suggests that differences in job level or sex could affect the Two-Factor theory. This study represents the only significant findings where sex has affected the relationship between job satisfaction and dissatisfaction (19).

Schwab and Heneman, Hanson and Hanson. Attempting to test the validity of the "critical incident" technique, two studies by Schwab and Heneman (21), and Hanson and Hanson (14) tested the reliability associated with coding the responses of individuals to questions about favorable and unfavorable job experiences. Consequently, the validity of the "critical incident" technique was also tested. The guidelines and definitions of terms utilized by Herzberg were utilized for the coding process. Their results were much in line with the Two-Factor theory with Recognition and Achievement being the most frequently mentioned favorable factors. Both studies had coded responses independently and reported very high reliability. The Schwab and Heneman study appears to have established the validity of the "critical incident" technique.

Questionnaire Method

Friedlander and Hahn. Another method that has been frequently used in testing the Two-Factor theory is the questionnaire. Two studies, one by Friedlander (12) and another by Hahn as reported by Behling, et al. (4), employed questionnaires to test the Two-Factor theory. Hahn analyzed the questionnaire responses of satisfying and dissatisfying incidents leading to "good" and "bad" days among 800 Air Force officers, and Friedlander studied the questionnaire responses of 1935 government services

employees. In Hahn's study, the dissatisfiers Supervision and Job Content lent the most support to the Two-Factor theory. Supervision appeared in 49 percent of the dissatisfying incidents and only 2 percent of the satisfying incidents. Job Content appeared in 33 percent of the dissatisfying incidents and only 3 percent of the satisfying incidents. Friedlander found that one set of factors contributed to satisfaction. Friedlander concluded that his results suggested a Two-Factor theory of satisfaction.

The previous studies have supported two major themes which are as follows: (1) a major source of job dissatisfaction occurs when workers are not satisfied with dissatisfiers; however, being satisfied with dissatisfiers will not lead to higher job satisfaction or better performance; and (2) the presence of satisfiers tends to boost both job satisfaction and performance (9:114-115). However, a number of studies do not support these themes. Wernimont (28) found that both intrinsic and extrinsic job factors could be the sources of both job satisfaction and dissatisfaction. Dunnette, Campbell, and Hakel (11) reported that while some satisfiers were related to job satisfaction, dissatisfiers were not related to job dissatisfaction. Kosmo and Behling (18) indicated that both satisfiers and dissatisfiers must be present in job situations to generate job satisfaction. Friedlander and Margulies (13) indicated that such dissatisfiers as social

climate and interpersonal relationships were important motivational factors for research and development personnel. Starcevich (23) also reported that such satisfiers as achievement, ability utilization, challenging job, growth, recognition, and promotion were ranked as important factors for both job satisfaction and dissatisfaction, regardless of the occupational levels of respondents. Such dissatisfiers as fringe benefits, merit increases, working conditions, supervision, and job influence on home life were ranked among the least important for both job satisfaction and dissatisfaction. A job factor can be a source of both job satisfaction as well as job dissatisfaction, regardless of occupational levels.

Related Military Studies

Several investigations into the area of junior officer retention and job satisfaction have been reviewed by the military services. Of these investigations, four major studies will be reviewed in this section. These studies are pertinent because they have considered some of the variables measured in this research effort.

Air Force

The Air Force (10) conducted an intensive research effort in 1966 which employed a conceptual scheme developed by Frederick Herzberg. The study was designed to provide a systematic approach toward a better understanding of

the effect of officer motivation on job performance and retention. The method employed personal interviews designed to provide comprehensive data about junior officers' attitudes toward their jobs and Air Force careers. Analysis of the data collected identified those factors associated with motivation and career intent. The major conclusions were as follows:

1. Monetary and material benefits play secondary roles in determining job satisfaction and career intent.

2. Attitudes of satisfaction/dissatisfaction determine the degree of productivity, personnel adjustment, and career intent in a positive or negative manner respectively.

3. Attitudes of satisfaction are determined by factors termed motivators (satisfiers) which provide: opportunity for achievement, recognition, interesting and challenging work, professional growth, and advancement. Dissatisfaction is determined by factors called dissatisfiers. Dissatisfaction may be minimized or eliminated by controlling the following factors or conditions: policy and administration, supervision, status, personal life, security, interpersonal relations, and working conditions.

4. Motivators and, therefore, opportunities for job satisfaction vary as to the jobs involved.

5. Motivation of the related officers is affected by policies relating to Temporary Duty (TDY), Alert,

scheduling, job assignment, and career planning. These factors are dissatisfiers which negatively affect career intent among rated officers.

6. Policies relating to assignment and career planning, as well as supervisor-subordinate relationships are the focus of attempts toward motivation of the non-rated officer. These factors are the major sources of dissatisfaction which block the operation of the motivators.

7. Factors influencing career attitudes and job satisfaction vary across commands.

8. Extending a regular commission to a junior officer provides a favorable influence on his career intentions. Career minded reservists look upon the active duty reserve as having less opportunities for growth, security and advancement.

Whichard

A later study by Major Willis K. Whichard, Jr. (30) investigated the reasons for low retention of junior officers in the civil engineering career field. The study concentrated on company grade civil engineering officers in Air Training Command. Whichard's objective was to determine the effect of low retention rate upon the CE mission accomplishment, and the cost associated with replacing these officers. His study found that high rates of officer

turnover was perpetuated by the dissatisfaction of the officer with the lack of adequate manpower to accomplish the mission.

Thompson

An investigation by Thompson (25) in 1980 identified the interpersonal relationships between civil engineering officers and their immediate supervisors which impacted on the officers' career intentions. The results indicated three significant observations. First, the quality of supervision of the company grade officer affected the rate of retention. Second, engineering officers received more feedback than most line officers. The third observation indicated that supervisors should be aware of their impacts on officer turnover.

Barton

The last study is most valuable because it was completed within a year of this research effort. Barton (3) analyzed the strengths and weaknesses of company grade officer positions and their effect upon retention. Two significant conclusions were determined from this study. First, rank, years of service, and academic degree must be considered along with the characteristics of the position. Second, the current position influenced task significance and the amount of personal growth in the work.

Summary and Conclusions

The first section summarized Herzberg's Two-Factor theory and related research. Of the nine studies reviewed, four offered very strong support, while the remaining five studies offered moderate support. Based upon this review, several conclusions can be reached. First, the studies reviewed seem to indicate that the "critical incident" technique is effective and useful for determining the factors affecting job satisfaction and job dissatisfaction. Second, the studies indicating strong support for the Two-Factor theory identified several significant factors affecting job satisfaction and job dissatisfaction. These factors were as follows: Recognition, Achievement, Competence, Accomplishment, Expression of Confidence, Supervision, and Job Content. Third, the literature reviewed stated several secondary findings. These included the following: (1) differences in sex and job level may affect job satisfaction and job dissatisfaction; (2) the Two-Factor theory is not a good predictor of overall job satisfaction; and (3) both satisfaction and dissatisfaction may or may not interact independently of one another.

The second section reviewed four studies which indicated supportive results as predicated by Herzberg's Two-Factor theory. These results can be summarized as follows: (1) there is a definite relationship between job

satisfaction and job dissatisfaction and various determinants such as job content and supervision; (2) high rates of turnover are perpetuated by high levels of job dissatisfaction; and (3) job content and supervision were identified as significant factors which affect job satisfaction and job dissatisfaction.

CHAPTER III

SURVEY ANALYSIS METHODOLOGY

Introduction

The objective of this research effort was accomplished through the administration of a survey to a world-wide random sampling of Air Force and Navy junior civil engineering officers. The survey was considered the most direct way of measuring civil engineering officer attitudes toward the present career management system.

The purpose of this chapter is to discuss the methodology by which the Analysis of Career Intent of Civil Engineering Officers Survey was analyzed. This will be accomplished in two steps. First, the content of the survey and the initial data handling will be discussed. Then, the various analytical techniques used in the analysis will be presented.

Survey Development

The survey focused on five major areas. The first area dealt with demographic questions. The remaining four areas included a question pertaining to the officer's career intent, a question on the possible effect a regular commission would have on career intent, attitudinal

questions, and motivational questions. The following sections discuss the content of the survey.

Demographics

The demographic questions requested information about the following:

1. Grade
2. Years of active military service
3. Source of commission
4. Major command of assignment and DAFSC/ Designator Number
5. Marital status

Career Intent

A number of research studies of employee retention have concluded that career intent is highly related to actual tenure. In particular, Shenk and Wilbourn (22) determined that military retention can be predicted from an expressed career intent. Additionally, their study indicated a relationship exists between attitudes and career intent.

Accordingly, the survey measured career intent (Question 6) by asking for a response on a seven-point response scale, ranging from "Definitely intend to make the Air Force/Navy a career" to "Definitely will not make the Air Force/Navy a career." It was on the basis of

Question 6 that the possible relationship between attitudes and career intent was tested.

Regular Commission

Since offering of a regular commission specifically involves factors of status, security, recognition, and possibly a feeling of achievement, this area was handled separately (Question 5). On the basis of Question 5, a determination was made as to whether there is indeed a possible shift in attitude toward career intent caused by the offer of a regular commission to the junior civil engineering officer.

Attitudinal Questions

The attitudinal questions (8-66) pertained to the individual's job and career area, as well as the military way of life in general. They were designed to be converted to factor scores by computing the arithmetic mean of the responses for each factor area. Since the resultant scores are independent of the number of source questions, they can be weighted equally and readily compared during subsequent analyses.

The attitudinal questions were designed for the fifteen motivational factors considered by this thesis and discussed in the following section. Variables defining each factor are discussed in Chapter IV. Results from the responses obtained were used to determine if a relationship

existed between the job attitudes of Air Force and Navy civil engineers.

Motivational Factors

Based upon previous studies directed at the motivation-retention area, attention for the purposes of this study focused on fifteen motivational factors. These motivational factors were grouped as satisfiers and dissatisfiers (9; 27). The motivational questions (Questions 67-70) were designed to elicit the junior officer's attitude toward each of the fifteen motivational factors and reflect the importance of each on career intent. Together, Questions 67 and 68 were designed to provide a ranking of the five factors which the officer feels provide the most positive motivation; and Questions 69 and 70 were designed to provide a ranking of the prominent dissatisfiers.

The following fifteen motivational factors were intended to be measured in this section of the survey.

Satisfiers.

1. Achievement. A specific success or feeling of success such as successful accomplishment of work, making a worthwhile contribution, seeing positive results of one's efforts, becoming proficient in a specialized area, and attaining leadership in one's field.

2. Advancement. A change or improvement in status or position, progress or furtherance of one's career, such as job progression, movement into a more advanced career field, promotion in rank, completion of Air Force Institute of Technology Masters Degree program, or other service school programs.

3. Growth. Change in one's situation which shows evidence that possibilities for growth have been enhanced; opportunity to develop one's potential to the fullest, i.e., promotion to higher rank which permits attendance at senior service schools.

4. Patriotism. Feelings of loyalty and love for country; pride in being an instrument of national policy as a member of the Air Force or Navy.

5. Recognition for Achievement. An act of acknowledgement and approval for demonstrated ability or performance; praise or notice from a supervisor, higher management, a peer, general public or other source; i.e., OERs, written or oral communications of commendation, or medals.

6. Responsibility. In full charge of a job, or situation; opportunity to exercise initiative in carrying out assigned work.

7. Work Itself. The actual doing of the job or the tasks of the job. It involves work that is interesting, varied, challenging, adventurous, or exciting; entails work

that is important or meaningful to the individual, work that corresponds to one's ability and background.

Dissatisfiers.

8. Interpersonal Relations. Interaction with peers, subordinates, or superiors both on and off the job; esprit of service life; working with a particular class of person, feeling of belonging to and acceptance by service associates.

9. Personal Life. Effect of job or career on some aspect of personal life such as family life, standard of living, acceptance by community; providing for family's comfort, education, and welfare; personal opportunities of Air Force and Navy life such as travel and housing.

10. Policy and Administration. That aspect of the Air Force and Navy at all organizational levels involving the adequacy or inadequacy of organization and management; harmful or beneficial effects of personnel and operational policies, procedures, and practices; presence or lack of consistent and fair policies involving assignment preferences, proper utilization of abilities and placement on job related to interests, background, and training.

11. Salary. All forms of direct or indirect monetary compensation such as base pay, hazard pay, and collateral benefits accruing from Medicare, commissary and

exchange privileges, and recreational opportunities (hobby) shops, clubs, rest areas, etc.).

12. Status. A sign or appurtenance associated with a job or assignment such as privileges for key personnel, missile badges, rated badges; prestige associated with being in the Air Force or Navy or with a particular rank or position within the Air Force/Navy.

13. Supervision. Involves one's relations with those in direct or indirect control over his job or career behavior; entails technical or managerial competence or incompetence; concern or indifference; fairness or unfairness; coercion or consideration.

14. Working Conditions. Involves the physical conditions of work, the amount of work, or the facilities for doing the work; for example, remote tours, improper or faulty equipment, excessive working hours.

15. Security. Objective signs of the presence of job security, not feelings of security.

Sample Population

The sample population was selected from parent populations of 900 and 473 junior civil engineering officers in the Air Force and Navy, respectively. From the respective parent populations, a sample of 208 for the Air Force, and 172 for the Navy was determined to be necessary (see Table 3), in order to obtain a desired

TABLE 3

BREAKDOWN BY SERVICE OF THE TOTAL NUMBER OF JUNIOR CIVIL ENGINEERING OFFICERS FOLLOWED BY THE DESIRED SAMPLE SIZE

Service	Number of Junior CE Officers	Sample Size
Navy	473	172
Air Force	900	208
Total		380

statistical confidence level of 90 percent. These sample sizes were computed using the formula found in Appendix B.

The officers to be sampled were located at various bases worldwide. Each had five or less years total active commissioned service and carried an AFSC of 55XX for the Air Force sample, and a Designator Number of 51XX for the Navy.

As indicated in Table 3, a total questionnaire response of 380 was desired. Since a response rate of less than 100 percent was expected, an additional 392 and 28 were sent to the Air Force and Navy respondents, respectively. Thus, a total of 800 questionnaires were sent--600 to the Air Force, and 200 to the Navy.

The actual returns of questionnaires and confidence level obtained is summarized in Table 4.

TABLE 4

BREAKDOWN OF NUMBER OF QUESTIONNAIRES RECEIVED FROM EACH SERVICE AND THE ACTUAL CONFIDENCE LEVEL ATTAINED

Service	Questionnaires Returned	Confidence Level of Data Received
Navy	118	80%
Air Force	398	99%

Data Transformations

The attitudinal questions in this survey used either a five-point or a seven-point response scale. The options ranged either from "strongly disagree" to "strongly agree," or from "extremely poor" to "outstanding." To provide a means to statistically analyze the data, the responses were assigned numeric values from 1 to 5 or 1 to 7, corresponding to the degree of the attitude represented by the option; that is, for a positively worded question, the response "strongly disagree" or "extremely poor" was assigned a value of 1 and "strongly agree" or "outstanding" a value of 5 or 7. For negatively worded questions this pattern was reversed. This applied to the following negatively worded questions: Questions 8, 9, and 12.

Analysis Techniques

Initial Data Analysis

The first portion of the data analysis was accomplished by using two subroutines of the Statistical Package for the Social Sciences (SPSS) (20). These two subroutines answered objectives 1, 2, and 4; and Questions 1, 2, and 4. The first subroutine, FREQUENCIES, provided a frequency distribution table, a number of descriptive statistics, and a histogram of the relative frequencies for each motivational/attitudinal factor. The second subroutine, CROSSTABS, displayed in tabular form the joint frequency distributions of cases according to two or more factors. The two subroutines were used because they fulfilled several purposes which were as follows: (1) the data were checked for any out-of-range responses; (2) the demographic statistics for the sample group could be studied and tabulated by career intent and other factors; and (3) two sets of questions, one dealing with reasons for separating and one dealing with reasons for staying in the Air Force/ Navy, could be analyzed for percentages of civil engineers responding to each reason.

Factor Analysis

To answer objective 3 and Question 3, factor analysis was employed to summarize the information within the attitudinal factors surveyed into a more usable set

of factors without loss of information. This was accomplished in two steps. First, the data were analyzed to determine what attitudinal factors would be retained. This was done by using the principle-component technique, which produced factors that are uncorrelated with each other. After computing the factors, they were interpreted by analyzing the factor loadings. This process required measuring the correlations between the factors and variables inserted. Those factors having questions with high loadings on that factor were considered measuring some underlying concept. Accordingly, each factor area addressed in the survey was analyzed to determine the actual questions that combined to measure that factor (5:20). The second step in factor analysis was to compute factor scores for the attitudinal factors retained. Computation of the factor scores resulted in standardized variables which estimated the value that each factor would take on for each case (20:487-488). These factor scores were then utilized as actual values in the regression analysis.

Regression Analysis

Regression analysis was used, following the factor analysis results, to complete the evaluation of objective 2 and Question 3. It was performed between the motivational factors isolated during the factor analysis and

career intent. Career intent was the dependent variable, and the attitudinal factors retained were the independent variables. The purpose of this operation was to determine what relationships existed between the factors surveyed and career intent. The results from this test for the two services were compared for the purpose of identifying any similarities.

CHAPTER IV

SURVEY ANALYSIS RESULTS

Introduction

The purpose of this chapter is to analyze the data received from the Air Force and Navy questionnaires. This is accomplished by dividing the chapter into the following four sections: (1) demographics, (2) factors influencing an officer's career intent, (3) relationship between job attitudes and career intent, and (4) relationship between a regular commission and career intent. Section one describes the general backgrounds of the Air Force and Navy respondents. The remaining sections answer the objectives and questions presented in Chapter I. Additionally, the Air Force and Navy analyses in the last three sections are discussed separately and then are compared within each section.

Demographics

Responses from four questions are presented to describe the general background of the sampled Air Force and Navy respondents. These four questions concerned rank, total years commissioned service, command, and the respondents' marital status. The results of the questions are shown in Tables 5 through 10.

TABLE 5

AIR FORCE TOTAL COMMISSIONED SERVICE BY RANK

Rank	Total Commissioned Service				Total
	Under 2 Years	2-3 Years	3-4 Years	4-5 Years	
0-3	0	0	1	37	38
0-2	1	87	79	5	172
0-1	178	6	1	3	188
Total	179	93	81	45	398

TABLE 6

NAVY TOTAL COMMISSIONED SERVICE BY RANK

Rank	Total Commissioned Service				Total
	Under 2 Years	2-3 Years	3-4 Years	4-5 Years	
0-3	0	3	4	18	25
0-2	3	23	21	2	49
0-1	31	11	2	0	44
Total	34	37	27	20	118

TABLE 7

AIR FORCE COMMAND BY RANK

Rank	Command								Total
	MAC	PACAF	SAC	TAC	ATC	AFLC	USAFE	AFSC	
0-3	9	3	3	3	4	1	10	5	38
0-2	29	13	30	27	25	8	23	17	172
0-1	30	3	44	55	30	15	3	8	188
Total	68	19	77	85	59	24	36	30	398

TABLE 8

NAVY COMMAND BY RANK

Rank	Area of Division									Total
	Wash. Naval District	North Div	Land Div	South Div	West Div	Pac Div	Atlan Area	Altan Ocean Area	Europe	
0-3	1	2	0	10	6	4	0	2	0	25
0-2	4	4	5	6	9	11	4	0	6	49
0-1	5	6	5	9	11	5	1	1	1	44
Total	10	12	10	25	26	20	5	3	7	118

TABLE 9

AIR FORCE MARITAL STATUS BY RANK

Rank	Marital Status				Total
	Married	Never Married	Divorced	Separated	
0-3	20	17	0	1	38
0-2	115	50	6	1	172
0-1	93	93	2	0	188
Total	228	160	8	2	398

TABLE 10

NAVY MARITAL STATUS BY RANK

Rank	Marital Status			Total
	Married	Never Married	Divorced	
0-3	15	9	1	25
0-2	27	22	0	49
0-1	27	17	0	44
Total	69	48	1	118

The statistics presented in Tables 5 through 10 indicate that the majority of the questionnaires were answered by very young civil engineering officers with three years or less military service. Those responding appear to provide an adequate representation of all major commands in the Air Force and Navy. Additionally, approximately 58 percent of the respondents were married and 40 percent were single.

Factors Influencing Career Intent-- Objectives 1 and 2 and Questions 1 and 2

The analysis began by evaluating the motivational factors to determine which five factors most influenced an officer not to complete a career in the Air Force or Navy, and what factors played a secondary role. This was accomplished in three steps. First, the respondents were separated on the basis of career intent; i.e., positive or negative career intentions.

Second, it was necessary to examine the ranking of the first five factors indicated by the respondent which would most influence him not to complete a career in the military. Those factors which influenced the officers indicating a negative career intent were examined and then compared with the factors identified as being the ones which would most influence a decision to leave the service by the officers indicating a positive career intent (see Tables 11 and 13).

Finally, the results of both career intent groups were aggregated to again identify those influential factors without regard to the respondent's career intent (see Tables 12 and 14). These aggregated results were compared to those obtained from the negative career group. The factors retaining their designation were considered as being the most influential on causing an officer not to complete a career in the military. The remaining factors were viewed as playing a secondary role.

Air Force

Table 11 implies that for the officers indicating an intent to leave the Air Force, policy and administration; salary; personal life; the work itself; and work conditions are considered as being the primary factors influencing their decision. In contrast, those officers expressing an intent of making the service a career chose policy and administration; salary; personal life; working conditions; and supervision as the five factors which they considered as the dissatisfiers. Comparing the responses from the two groups, the factors policy and administration, salary, personal life and working conditions were selected by both; thus, indicating a possible relationship between those factors and negative career intent.

To further analyze the preceding, the results of the two groups were aggregated (see Table 12). The aggregate

TABLE 11

FREQUENCY OF MOTIVATIONAL FACTORS WHICH INFLUENCE AIR FORCE OFFICERS TO INDICATE POSITIVE AND NEGATIVE CAREER INTENT[a]

Positive Career Intent (201)				Negative Career Intent (119)			
Rank	Factor	Total Responses	Frequency Selected	Rank	Factor	Total Responses	Frequency Selected
1	Policy & Administration	135	67.1%	1	Policy & Administration	94	79.0%
2	Salary	133	66.1	2	Salary	75	63.0
3	Personal Life	106	52.7	3	Personal Life	68	57.1
4	Working Conditions	105	52.2	4	Work Itself	57	47.9
5	Supervision	73	36.3	5	Working Conditions	45	37.8
6	Work Itself	66	32.8	6	Achievement	40	33.6
7	Status	63	31.3	6	Advancement	40	33.6
8	Advancement	55	27.4	7	Supervision	34	28.6
9	Recognition	52	25.9	8	Education	26	24.4
10	Interpersonal Relations	49	24.4	9	Interpersonal Relations	22	18.5
11	Achievement	36	17.9	9	Status	22	18.5
12	Security	23	11.4	10	Recognition	20	16.8
12	Education	23	11.4	11	Security	16	13.5
13	Patriotism	18	9.0	12	Responsibility	5	4.2
14	Responsibility	16	8.0	12	Patroitism	5	4.2

[a]Only five of the fifteen motivational factors were ranked by each officer.

TABLE 12

AGGREGATION OF AIR FORCE FREQUENCIES WITHOUT REGARD TO CAREER INTENT

Rank	Factor	Total Responses	Frequency Selected
1	Policy & Administration	229	57.5%
2	Salary	208	52.3
3	Personal Life	174	43.7
4	Working Conditions	150	37.7
5	Work Itself	123	30.9
6	Supervision	107	26.9
7	Advancement	95	23.9
8	Status	85	21.4
9	Achievement	76	19.1
10	Recognition	72	18.1
11	Interpersonal Relations	71	17.8
12	Education	49	12.3
13	Security	39	9.8
14	Patriotism	23	5.8
15	Responsibility	21	5.3

results were then compared with those results obtained from the negative career group. All five factors continued to show a high degree of influence on career intent. Thus, the following factors were the most influential on a civil engineering officer not completing a career in the Air Force: policy and administration; salary; personal life; working conditions; and the work itself. The remaining ten factors play a secondary role.

Navy

Table 13 suggests that for the officers expressing an intent to leave the Navy, salary; policy and administration; personal life; work itself; and working conditions are considered the primary factors influencing their decision. In contrast, those officers expressing an intent to make the service a career chose the same factors as dissatisfiers, except that interpersonal relations was selected in lieu of work itself. Thus, the four factors selected by both groups indicate a possible relationship between those factors and negative career intent.

For further analysis, the results of the two groups were aggregated (see Table 14). The aggregate results were then compared with the first five factors selected by the negative career group. It was found that all five factors continued to show a high degree of influence on career intent. Thus, it can be concluded that the following

TABLE 13

FREQUENCY OF MOTIVATIONAL FACTORS WHICH INFLUENCE NAVY OFFICERS TO INDICATE POSITIVE AND NEGATIVE CAREER INTENT[a]

Positive Career Intent (54)				Negative Career Intent (43)			
Rank	Factor	Total Responses	Frequency Selected	Rank	Factor	Total Responses	Frequency Selected
1	Salary	42	77.8%	1	Salary	28	65.1%
2	Personal Life	37	68.5	2	Policy & Administration	27	62.7
3	Policy & Administration	36	66.7	2	Personal Life	27	62.7
4	Working Conditions	25	46.3	3	Work Itself	21	48.8
5	Interpersonal Relations	19	35.2	4	Working Conditions	18	41.9
6	Supervision	18	33.3	5	Achievement	15	34.9
6	Achievement	18	33.3	6	Recognition	13	30.2
7	Status	16	29.6	7	Interpersonal Relations	12	27.9
8	Work Itself	15	27.8	7	Advancement	12	27.9
9	Recognition	12	22.2	7	Education	12	27.9
10	Advancement	11	20.4	8	Responsibility	8	18.6
11	Security	6	11.1	9	Supervision	7	16.3
12	Patriotism	3	5.6	10	Security	5	11.6
13	Responsibility	2	3.7	11	Status	4	9.3
14	Education	1	1.9	12	Patriotism	3	7.0

[a]Only five of the fifteen motivational factors were ranked by each officer.

TABLE 14

AGGREGATION OF NAVY FREQUENCIES WITHOUT REGARD TO CAREER INTENT

Rank	Factor	Total Responses	Frequency Selected
1	Salary	70	59.3%
2	Personal Life	64	54.2
3	Policy & Administration	63	53.4
4	Working Conditions	43	36.4
5	Work Itself	36	30.5
6	Achievement	33	28.0
7	Interpersonal Relations	31	26.3
8	Supervision	25	21.2
9	Recognition	25	21.2
10	Advancement	23	19.5
11	Status	20	17.0
12	Education	13	11.0
13	Security	11	9.3
14	Responsibility	10	8.5
15	Patriotism	6	5.1

factors are the most influential in causing a civil engineering officer not to complete a career in the Navy: policy and administration; salary; personal life; working conditions; and work itself. The remaining ten factors play a secondary role.

Comparison of Air Force and Navy Results--Objective 5 and Question 5

A comparison of the results for Air Force and Navy officers indicates that civil engineering officers have corresponding viewpoints as to the five factors most influencing them not to complete a career (see Tables 12 and 14).

Finally, the preceding results supported four of the five factors hypothesized. These are: personal life, policy and administration, working conditions, and the work itself.

Relationship Between Job Attitudes and Career Intent--Objective 3 and Question 3

To evaluate objective 3 and Question 3, two tests were conducted on the attitudinal questions. These consisted of factor analysis and multiple regression. The test results determined the significant motivational factors that were related to career intent. These factors were classified as either negative or positive predictors. The negative predictors were factors that influenced an

officer's decision not to complete a career in the Air Force/Navy, while the positive predictors produced a positive effect on an officer's career intent.

Factor Analysis Results

Using the principle-moment technique, each of the fifteen motivational factors was analyzed to determine which would be retained for further analysis. This consisted of deleting any factor having an eigenvalue less than 1.00 (5:44). After this procedure was completed, the remaining factors were "defined" by those supporting attitudinal questions having a factor loading equal to or exceeding 0.300.

The factor analysis results are summarized in Table 15. The table consists of the factor names, their supporting attitudinal question numbers and associated factor loadings. Table 15 indicates that all fifteen motivational factors were retained for further analysis by multiple regression.

Regression Results

Multiple regression analysis was used to determine if a relationship existed between the job attitudes held by junior officers and career intent. The motivational factors retained from the factor analysis were used as independent variables, with career intent used as the dependent variable. For a factor to remain in the

TABLE 15

ATTITUDINAL FACTORS (Q8-Q66)

Feeling of Achievement

Question	Factor Loading
9	.72882
10	.84462
11	.60497
12	.67704
27	.81077
29	.78926
31	.75385
32	.49249
35	.78655
53	.78766
65	.63860

Policy & Administration/
Opportunity for Achievement

Question	Factor Loading
37	.82659
45	.90066
51	.81733
55	.85253
56	.42312
58	.37077

Opportunity to Complete a Job

Question	Factor Loading
14	.63415
21	.64564
24	.74438
26	.87139

TABLE 15--Continued

Working Conditions

Question	Factor Loading
40	.33945
42	.43580
49	.77062
64	.65525

Supervision

Question	Factor Loading
34	.56463
39	.61247
59	.55571
60	.43712

Status

Question	Factor Loading
62	.69516
66	.58867

Security

Question	Factor Loading
43	.80267
50	.66754
63	.31821

Responsibility

Question	Factor Loading
44	.58803
54	.59473

TABLE 15--Continued

Patriotism

Question	Factor Loading
36	.49787

Opportunity to Further Education

Question	Factor Loading
46	.32640

Work Itself

Question	Factor Loading
13	.73879
16	.76491
18	.47574
20	.80612
23	.73365
25	.43729

Recognition for Achievement

Question	Factor Loading
15	.69372
17	.83935
19	.82306
22	.73381
30	.30798
52	.42994

Salary

Question	Factor Loading
8	.78036
33	.71400
38	.83372
57	.87626

TABLE 15--Continued

Personal Life and Affairs

Question	Factor Loading
48	.56258
61	.41318

Interpersonal Relationships

Question	Factor Loading
47	.49397

regression analysis, a minimum F value of 1.5 was required to ensure a .10 significance level based on the degrees of freedom. The results are presented in Tables 16 and 17. The relative importance of each factor is determined by comparing the beta weights; i.e., the largest negative beta weight identifies the strongest negative predictor.

Air Force. The results in Table 16 indicate that the factors retained in the regression analysis explain 37.0 percent of the variation in the career intent variable. Four factors were negative predictors of career intent, and four factors were positive predictors of career intent. Personal life appeared as the strongest negative predictor of career intent. The next strongest negative predictor was feeling of achievement. The last two negative predictors of career intent were security and recognition for achievement. Both had comparable beta weights, and percent of variation explained. The two strongest positive predictors of career intent, which have the same beta weights, were responsibility and supervision. The last two positive predictors were working conditions and education. These had comparable beta weights, and percent of variation explained.

Navy. Table 17 indicates that the factors retained in the regression analysis explains 49.6 percent of the variation in the career intent variable. Four factors

TABLE 16

AIR FORCE CAREER INTENT REGRESSION MODEL

Factor	Regression Coefficient	Beta Weight	R^2	Adjusted R^2	F Value
Personal Life	-.331	-.540	.349	.348	105.897
Feeling of Achievement	-.028	-.189	.357	.353	8.651
Responsibility	.067	.101	.368	.361	3.003
Security	-.050	-.098	.372	.364	3.846
Working Conditions	.028	.079	.375	.366	1.951
Recognition for Achievement	-.035	-.110	.378	.367	3.699
Supervision	.035	.101	.382	.369	2.805
Education	.068	.059	.385	.370	1.530
(Constant)	6.916				

Dependent Variable: Question 6--Career Intent.

N = 398

R^2= .370

F for Model = 16.111

TABLE 17

NAVY CAREER INTENT REGRESSION MODEL

Factor	Regression Coefficient	Beta Weight	R^2	Adjusted R^2	F Value
Personal Life	-.311	-.532	.414	.409	32.686
Feeling of Achievement	-.045	-.366	.452	.443	8.897
Working Conditions	.069	.199	.477	.463	4.663
Patriotism	-.089	-.122	.497	.479	2.197
Responsibility	.114	.174	.506	.484	2.786
Education	.230	.164	.515	.488	3.327
Salary	.045	.129	.531	.496	2.811
(Constant)	7.387				

Dependent Variable: Question 6--Career Intent

N = 118

R^2 = .496

F for Model = 8.6830

were positive predictors of career intent, and three factors were negative predictors of career intent. Personal life appeared as the strongest negative predictor of career intent. The next strongest negative predictor was feeling of achievement. The last negative predictor was patriotism. The strongest positive predictor of career intent was working conditions. The next two positive predictors of career intent had comparable beta weights and percent of variation explained. These included responsibility and education. The weakest positive predictor was salary; however, this is inconsistent with the results from Table 14, which indicated that salary has a negative influence upon career intent. This inconsistency is unexplainable.

Comparison of Air Force and Navy Results--Objective 5 and Question 5. Comparison of the model R^2 values for each service indicates the Navy factors explain more of the variation in the career intent variable than do the Air Force factors.

The results also indicate that Air Force and Navy junior civil engineering officers have similar attitudes toward the motivational factors influencing career intent. This is supported by the fact that two negative predictors and three positive predictors are the same for both services. The negative predictors, i.e., factors that

influence an officer's decision not to complete a career in the Air Force/Navy, include personal life and feeling of achievement. The positive predictors, i.e., factors that have a positive effect on an officer's career intent, include working conditions, responsibility and education.

Relationship Between a Regular Commission and Career Intent--Objective 4 and Question 4

Officers intending to make the Air Force or Navy a career perceive a regular commission in a variety of ways. To some individuals, a regular commission represents security and less likelihood of being separated involuntarily. To others, it represents a status symbol, and a feeling of joining an exclusive fraternity. Still others feel that possessing a regular commission provides an officer better promotion opportunities. Regardless of how a regular commission is viewed, the military services have traditionally perceived it as a viable device for positively influencing an officer's career intent.

Two questions were asked of the respondents to test the influence of offering a regular commission to junior officers and its effect on career intent. Question 6 permitted the individual to rate his present career intent attitude on a scale of A to G. Selecting response "A" indicated a definite intention of making the service a career; "G" indicated a definite intention of leaving

the service; "D" indicated an indecision toward his career intentions; and responses "B," "C," "E," and "F" indicated a lesser degree of either positive or negative career intent respectively.

Question 5 permitted the respondent to indicate his attitude towards the Air Force/Navy offering him a regular commission. The individual was asked to rate his attitude on a scale A to F. Individuals indicating response "A" possessed a regular commission and were excluded from the computations. Selecting response "B" indicated a definite positive attitude toward the offering of a regular commission and "F" a definite negative attitude; "D" indicated an indecision; and responses "C" and "E" indicated a lesser degree of either positive or negative attitudes respectively.

To determine the effect offering a regular commission had on an individual's career intentions, responses to Questions 5 and 6 were compared. A change in career-intent attitudes occurred when the response for Question 5 varied from Question 6. A "major change" occurred only when the shift was from a negative viewpoint (Question 5, responses E and F; Question 6, responses E, F, and G) to the positive side (Question 5, responses B and C; Question 6, responses A, B, and C). The tabulated results are presented in Table 18.

TABLE 18

THE INFLUENCE THAT AN OFFER OF A REGULAR COMMISSION HAS ON CAREER INTENT ATTITUDES

Service	Sample Size	Officers Having Reg. Comm.	Number Changing Attitude	Percent of Change	Number of Major Changes	Percent of Major Changes
Air Force	398	112	186	65.0	25	8.7
Navy	118	58	26	43.3	1	1.7

Air Force/Navy

Results from Table 18 indicate a major change in career intent attitudes for 8.7 percent and 1.7 percent of those Air Force and Navy officers respectively, expressing a negative career intent when offered a regular commission. Based upon these results, it can be concluded that offering a regular commission only moderately affects an Air Force officer's career intentions but produces no significant change for Navy officers.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The Air Force and Navy are experiencing gradually declining retention rates among their junior officers in the civil engineering field (24; 26). To determine the reasons for declining retention rates, we examined past efforts devoted to motivation and retention by the military and civilian sectors, developed a survey for civil engineers, 01-03, and analyzed the data obtained. The results identified factors which significantly influence the career intent of junior civil engineering officers.

The officers queried had five years or less active duty commissioned service. The population consisted of 900 and 473 junior officers serving in the Air Force and Navy civil engineering field, respectively.

This study was focused on the following fifteen motivational factors: achievement, advancement, growth, patriotism, recognition for achievement, responsibility, work itself, interpersonal relations, personal life, policy and administration, salary, status, supervision, working conditions, and security. We then focused on those factors which tended to significantly influence career intent.

To collect data for this study, we developed a questionnaire which addressed career intent, job attitudes, and motivational factors. To obtain a desired statistical confidence level of 90 percent by service, we needed results from 269 and 172 Air Force and Navy civil engineers, respectively. Additional questionnaires were sent to ensure the desired confidence interval was achieved. However, the useable returns totaled 398 and 118, resulting in a 99 percent and 80 percent statistical confidence level for the Air Force and Navy, respectively.

Conclusions

The goal of this research effort was to determine the factors affecting career intent of Air Force and Navy junior officers serving in the civil engineering field. This goal was accomplished by tabulating and analyzing the responses to the Voluntary Separation of Civil Engineering Officers Questionnaire. From these responses, the following conclusions were drawn about this study's five research objectives.

Research Objective One

> Determine the major factors which most influence the individual not to complete a career in the Air Force/Navy.

To evaluate objective one, research question one hypothesized that policy and administration, work itself, supervision, working conditions, and the inability to plan

personal life to be the major factors which most influence an officer not to complete a career in the Air Force and Navy.

The results indicated the following factors are the most influential on a civil engineering officer not completing a career in the Air Force or Navy: policy and administration, salary, personal life, working conditions and work itself.

Research Objective Two

Determine the motivational factors that affect career planning.

The second research objective was accomplished by using the analysis from research question two. Research question two hypothesized that achievement, advancement, status, professional growth, patriotism, recognition for achievement, responsibility, interpersonal relations, security and salary to be secondary factors which influence his/her career planning.

The factors which were identified as playing a secondary role in career planning of Air Force and Navy officers were as follows: achievement, advancement, supervision, status, recognition for achievement, interpersonal relations, education, patriotism, responsibility, and security.

Research Objective Three

Determine if a relationship exists between the job attitudes held by a junior officer and career intent.

This objective was supported by research question three which sought to determine whether there is a direct relationship between the job attitudes held by junior civil engineering officers and career intent. To ascertain if such a relationship existed, factor analysis and multiple regression were used.

The results for the Air Force identified four factors which were negative predictors of career intent, and four factors were positive predictors of career intent. The four negative predictors of career intent, from strongest to weakest, were as follows: personal life, feeling of achievement, security, and recognition for achievement. The four positive predictors of career intent, from strongest to weakest, were as follows: responsibility, supervision, education, and working conditions.

For the Navy, the results identified three factors which were negative predictors of career intent, and four factors were positive predictors of career intent. The three negative predictors of career intent, from strongest to weakest, included the following: personal life, feeling of achievement, and patriotism. The four positive predictors of career intent, from strongest to weakest, were

as follows: working conditions, responsibility, education, and salary.

Research Objective Four

Determine if offering a regular commission to a junior officer affects his/her career intent.

This objective was achieved by evaluating research question four which determined if the offer of a regular commission appreciably affects the career intent of a junior officer.

The results indicated a major change in career intent attitudes for 8.7 percent and 1.7 percent of those Air Force and Navy officers respectively, expressing a negative career intent, when offered a regular commission. Based upon these results, it can be concluded that the offer of a regular commission has lost much of its motivational impact upon career intent.

Research Objective Five

Compare the results of the preceding analyses for the Air Force and Navy civil engineers.

To support objective five, research question five determined if there are similarities in the preceding analyses between Air Force and Navy civil engineers.

The results of the survey analysis indicate that the Air Force and Navy had five common factors which most influenced career intent decisions. These five factors included: policy and administration, salary, personal

life, working conditions, and work itself. Additionally, these five factors also were most influential in career planning. The remaining ten motivational factors are viewed as playing only a secondary role in career planning.

Factor analysis and multiple regression determined if a relationship exists between the job attitudes held by junior officers and career intent. From the preceding analysis, the results indicated working conditions, responsibility, and education affected career intent positively for both services. In contrast, the two strongest predictors, feeling of achievement and personal life, were found to negatively impact upon an officer's career intent.

The impact of offering a regular commission upon career intent was compared in both services. From the results obtained, it could be concluded that offering a regular commission only slightly influences an officer's career intent decision in the Air Force or Navy.

Finally, from reviewing the above results, it can be concluded that Air Force and Navy junior civil engineering officers have similarities in their perception of factors affecting career intent.

Recommendations

The authors propose four specific recommendations for solving the gradually declining retention rates among Air Force and Navy junior civil engineering officers.

Some of these recommendations are the result of consideration of the selected comments shown in Appendix C, while others are based upon personal experience of the authors.

1. The recently talked-about engineering bonuses should be given to civil engineering officers, not just architects, mechanical engineers, and electrical engineers. Without such consideration civil engineering officers may become highly dissatisfied, and voluntarily separate from the service at higher rates at the end of their initial commission period.

2. The Air Force and Navy should make their engineering positions more challenging. This can be accomplished by adding responsibilities which allow engineers to see the completion of whole and identifiable pieces of work. Such responsibilities may include identifying major repair and maintenance work, programming, and successfully completing the work in-house.

3. Job stagnation was a common problem exhibited in the comments from questionnaire respondents. Whenever this occurs, the junior officer should be rotated as soon as possible from the stagnated job to a new job. This will do two things for the junior officer. First, it will prevent the officer from becoming dissatisfied with the Air Force or Navy, early in his career. Second, by allowing the engineer to rotate from one job to another job, a desired level of skill variety may be achieved.

4. All junior civil engineering officers should be encouraged to further their education. This can be accomplished by sending the officer TDY/TAD to continuing education courses, having the officer apply to post-graduate schools, and encouraging him to take night classes. This may result in a more productive and satisfied officer.

Recommendation for Further Study

To determine if the results obtained in this research effort are applicable service-wide, it is recommended that a comparative study be conducted on the Army junior civil engineering officers.

APPENDICES

APPENDIX A

ANALYSIS OF CAREER INTENT OF CIVIL ENGINEERING OFFICERS SURVEY

DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE OF TECHNOLOGY (ATC)
WRIGHT-PATTERSON AIR FORCE BASE, OH 45433

REPLY TO ATTN OF: AFIT-LS (LSSR 10-82)/ Major Mercer/ Captain Clayton/ Autovon 785-6569

SUBJECT: Voluntary Separation of Civil Engineering Officers in the Air Force/Navy Questionnaire

TO:

1. The attached questionnaire was prepared by a thesis research team at the Air Force Institute of Technology, Wright-Patterson AFB, Ohio. The purpose of the questionnaire is to accumulate data about the factors that impact a junior civil engineering officer's decision to voluntarily separate.

2. You are requested to provide an answer or comment for each question. Headquarters USAF Survey Control Number 82-14 has been assigned to this questionnaire. Your participation in this research is voluntary.

3. Your responses to the questions will be held confidential. Please remove this cover sheet before returning the completed questionnaire. Your cooperation in providing this data will be appreciated and will be very beneficial in examining the environment in which a program officer works. Please return the completed questionnaire in the attached envelope within one week after receipt.

ALAN R. STOUT, Lt Col, USAF
Acting Associate Dean
School of Systems and Logistics

2 Atch
1. Questionnaire
2. Return Envelope

PRIVACY STATEMENT

In accordance with paragraph 8, AFR 12-35, the following information is provided as required by the Privacy Act of 1974:

a. Authority:

(1) DOD Instruction 1100.13, 17 Apr. 68, Surveys of Department of Defense Personnel:

(2) AFR 30-23, 22 Sep. 76, Air Force Personnel Survey Program.

b. Principal purposes. The survey is being conducted to collect information to be used in research aimed at illuminating and providing inputs to the solution of problems of interest to the Air Force and Navy.

c. Routine Uses. The survey data will be converted to information for use in research of management related problems. Results of the research, based on the data provided, will be included in written master's theses and may also be included in published articles, reports, or texts. Distribution of the results of the research, based on the survey data, whether in written form or presented orally, will be unlimited.

d. Participation in this survey is entirely voluntary.

e. No adverse action of any kind may be taken against any individual who elects not to participate in any or all of this survey.

INSTRUCTIONS: Indicate your answers by circling appropriate letters in this question booklet. Select only one response to each question, and erase cleanly any responses you wish to change. If you are currently TDY/TAD enroute to a permanent change of station, answer all questions with reference to your last assignment. Please write any comments you have about any subject in this survey on the reverse side of the last page.

1. What is your grade?

   a. 0-3
   b. 0-2
   c. 0-1

2. How much active military service do you have?

   a. less than 2 years
   b. 2 but less than 3 years
   c. 3 years but less than 4 years
   d. 4 years to 5 years
   e. over 5 years

3. What is the source of your commission?

   a. Service Academy
   b. OTS/OCS
   c. ROTC/NROTC
   d. Others _____

4. Which command are you now serving in? Additionally, indicate your DAFSC (Air Force)/Designator Number (Navy).

Air Force	DAFSC	Navy	Designator No.
a. MAC		j. Naval District, Washington, D.C.	
b. PACAF		k. NorthDiv	
c. SAC		l. LantDiv	
d. TAC		m. SouthDiv	
e. ATC		n. WestDiv	
f. ADC		o. PacDiv	
g. AFLC		p. Atlantic Area	
h. USAFE		q. Atlantic Ocean Area	
i. AFSC		r. European Area	
		s. African Area	
	t. Other		

5. If you do not now have a Regular Commission, would you accept one if it were offered?

   a. Not applicable, I already have a Regular Commission
   b. Yes, definitely
   c. Yes, probably
   d. I'm not sure what I would do
   e. No, probably not
   f. No, definitely not

6. At this time, what is your attitude toward making the Air Force/Navy a career?

   a. Definitely intend to make the Air Force/Navy a career
   b. Probably will make the Air Force/Navy a career
   c. Leaning toward making the Air Force/Navy a career
   d. Not sure/undecided
   e. Leaning toward <u>not</u> making the Air Force/Navy a career
   f. Probably will <u>not</u> make the Air Force/Navy a career
   g. Definitely will <u>not</u> make the Air Force/Navy a career

7. What is your marital status?

   a. Married
   b. Never been married
   c. Divorced and not remarried
   d. Legally separated
   e. Widower/widow

8. How do you think your military pay (including all allowances and other entitlements) compares with the pay of a civilian in the private sector with similar length of service/experience?

   a. Military pay is far higher than civilian
   b. Military pay is somewhat higher than civilian
   c. Both about equal
   d. Military pay is somewhat less than civilian
   e. Military pay is far less than civilian

9. Which one of the following shows <u>how much of the time</u> you feel satisfied with your job?

   a. All of the time
   b. Most of the time
   c. A good deal of the time
   d. About half of the time
   e. Occasionally
   f. Seldom
   g. Never

10. Choose one of the following statements which best tells how well you like your job.

a. I hate it
b. I dislike it
c. I don't like it
d. I am indifferent to it
e. I like it
f. I am enthusiastic about it
g. I love it

11. Which one of the following best tells how you feel about changing your job?

a. I would quit this job at once if I could
b. I would take almost any other job in which I could earn as much as I am now earning
c. I would like to change both my job and my occupation
d. I would like to exchange my present job for another one
e. I am not eager to change my job, but I would do so if I could get a better job
f. I cannot think of any job for which I would exchange my present job
g. I would not exchange my job for any other

12. Which one of the following shows how you think you compare with other people?

a. No one likes his/her job better than I like mine
b. I like my job much better than most people like theirs
c. I like my job better than most people like theirs
d. I like my job about as well as most people like theirs
e. I like my job more than most people dislike theirs
f. I dislike my job much more than most people dislike theirs
g. No one dislikes his/her job more than I dislike mine

Below are items that relate to your job. Read each statement carefully and then decide to what extent the statement is true of your job. Indicate the extent to which the statement is true for your job by choosing the response which best represents your assessment.

a. Very little
b. A small amount
c. A moderate amount
d. A large amount
e. Very much

13. How much are you left on your own to do your own work?

a b c d e

14. How often do you see projects or jobs through to completion?

a b c d e

15. To what extent do you find out how well you are doing on the job as you are working?

a b c d e

16. To what extent are you able to act independently of your supervisor in performing your job function?

a b c d e

17. To what extent do you receive information from your supervisor on your job performance?

a b c d e

18. To what extent are you able to do your job independently of others?

a b c d e

Below are further items that relate to your job. Read each carefully and indicate what amount of each characteristic your job contains.

a. A minimum amount
b. A small amount
c. A moderate amount
d. A large amount
e. A maximum amount

19. The feedback from my supervisor on how well I'm doing

a b c d e

20. The freedom to do pretty much what I want on my job

a b c d e

21. The degree to which the work I'm involved with is handled from beginning to end by myself

a b c d e

22. The opportunity to find out how well I am doing on the job

a b c d e

23. The opportunity for independent thought and action

a b c d e

24. The opportunity to complete work I start

a b c d e

25. The control I have over the pace of my work

a b c d e

26. The opportunity to do a job from the beginning to end (i.e., the chance to do a whole job)

a b c d e

Please read each of the statements below carefully. Using the following scale, indicate how much you agree or disagree with each statement.

STRONGLY DISAGREE	DIS-AGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
A	B	C	D	E	F	G

Circle A if you STRONGLY DISAGREE
Circle B if you DISAGREE
Circle C if you SLIGHTLY DISAGREE
Circle D if you NEITHER AGREE NOR DISAGREE
Circle E if you SLIGHTLY AGREE
Circle F if you AGREE
Circle G if you STRONGLY AGREE

Please respond to every statement. While some of the statements may appear similar to each other, no two statements are identical. Please do not go back to previous statements. Try to give a true picture of your feelings and opinions.

27. I consider my work as being interesting and challenging.

A B C D E F G

28. My rank commensurates with the duties and responsibilities found in my present job.

A B C D E F G

29. My job gives me a feeling of accomplishment.

A B C D E F G

30. My performance evaluations present a true identification of my performance.

A B C D E F G

31. I enjoy serving in my present career area.

A B C D E F G

STRONGLY DISAGREE	DIS-AGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
A	B	C	D	E	F	G

32. I view my present job as being one of importance in the defense of my nation.

A B C D E F G

33. I feel that my pay is appriopriate for the position that I hold.

A B C D E F G

34. I feel that my supervisor is interested in my career.

A B C D E F G

35. I derive a sense of accomplishment in my present job.

A B C D E F G

36. I consider my job and association with the Armed Forces as being a patriotic duty.

A B C D E F G

Please read each of the statements below carefully. Using the following scale, indicate your judgment of each question by circling the correct letter.

EXTREMELY POOR	POOR	SLIGHTLY BELOW AVERAGE	AVERAGE	SLIGHTLY ABOVE AVERAGE	GOOD	OUTSTANDING
A	B	C	D	E	F	G

37. How would you rate the opportunities for career progression in your present career field?

A B C D E F G

38. How do you view your present salary?

A B C D E F G

39. Rate your supervisor as to his knowledge of your job functions.

A B C D E F G

40. How would you rate the degree of esprit de corps found in your unit?

A B C D E F G

41. How do you feel your relatives would rate the military as a career?

A B C D E F G

42. Rate how you view your working hours.

A B C D E F G

43. How would you rate the retirement benefits found in the military?

A B C D E F G

EXTREMELY POOR	POOR	SLIGHTLY BELOW AVERAGE	AVERAGE	SLIGHTLY ABOVE AVERAGE	GOOD	OUTSTANDING
A	B	C	D	E	F	G

44. How would you rate the amount of responsibility found in your present job?

A B C D E F G

45. How do you view the promotion opportunities found in your career area?

A B C D E F G

46. How would you rate the educational opportunities found in your career area?

A B C D E F G

47. Rate how you view the interpersonal relationships found in your career area.

A B C D E F G

48. How do you consider your ability to plan your personal life as a result of your career area?

A B C D E F G

49. Rate the working conditions found in your job.

A B C D E F G

50. How do you view military retirement benefits as being an inducement to remain in the service?

A B C D E F G

51. How do you regard career progression in your career area?

A B C D E F G

EXTREMELY POOR	POOR	SLIGHTLY BELOW AVERAGE	AVERAGE	SLIGHTLY ABOVE AVERAGE	GOOD	OUTSTANDING
A	B	C	D	E	F	G

52. Rate the degree of recognition junior officers receive in your career area.

A B C D E F G

53. How would you rate your job as being one that offers satisfaction and is meaningful?

A B C D E F G

54. How would you rate the degree of responsibility given you while carrying out your job duties?

A B C D E F G

55. How would you rate the opportunity for advancement found in your career field?

A B C D E F G

56. How do you consider your unit's career progression program?

A B C D E F G

57. How would you rank your pay when comparing it against that found in the civilian community?

A B C D E F G

58. Rate the policies and administration that affect your career area and job.

A B C D E F G

EXTREMELY POOR	POOR	SLIGHTLY BELOW AVERAGE	AVERAGE	SLIGHTLY ABOVE AVERAGE	GOOD	OUTSTANDING
A	B	C	D	E	F	G

59. How would you rate the supervision found in your career field?

A B C D E F G

60. Rate the working associations found in your job.

A B C D E F G

61. How would you rate the military as an environment in which you can attain your personal goals?

A B C D E F G

62. How would you rate the military officer's status when compared against that of a civilian?

A B C D E F G

63. Rate the degree of security found in the military career.

A B C D E F G

64. Rate the working conditions encountered while carrying out your assignments in your career area.

A B C D E F G

65. Rate how you are being utilized in your present job.

A B C D E F G

66. How do you think the public would rate the Air Force/ Navy junior officer?

A B C D E F G

67. Circle the five factors in the following list which would most influence you to make a career of the Air Force/Navy. (Base responses upon your present position.)

a. Feeling of achievement

b. Salary

c. The work itself

d. Policy and administration found in military

e. The responsibility

f. Supervision

g. The opportunity for advancement

h. Interpersonal Relations

i. The opportunity to further my education and skills

j. Personal life and affairs

k. Recognition for achievement

l. Status

m. A sense of patriotism

n. Working conditions

o. Security

68. From the above, list by descending order (most to least important) the five factors which would most influence you to make a career in the Air Force/Navy.

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

69. Circle the five factors in the following list which would most influence you not to make a career in the Air Force/Navy. (Base your responses on your present position.)

a. Salary

b. Feeling of achievement

c. Policy and administration found in military

d. Recognition for achievement

e. Supervision

f. The work itself

g. Interpersonal Relations

h. The responsibility

i. Personal life and affairs

j. The opportunity for advancement

k. Status

l. The opportunity to further my education and skills

m. Working conditions

n. A sense of patriotism

o. Security

70. From the above, list by descending order (most to least important) the five factors which would most influence you not to make a career in the Air Force/Navy.

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

APPENDIX B

FORMULA FOR DETERMINING SAMPLE SIZE

AD-A123 049 AN ANALYSIS OF CAREER INTENT OF JUNIOR CIVIL ENGINEERING OFFICERS IN THE..(U) AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.. 2/2

UNCLASSIFIED M E CLAYTON ET AL. SEP 82 AFIT-LSSR-10-82 F/G 5/0 NL

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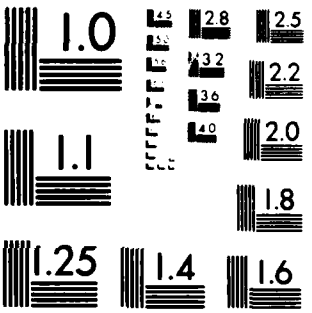


$$n = \frac{N(z^2) \cdot p(1-p)}{(N-1)(d^2) + (z^2) \cdot p(1-p)}$$

where:

n = sample size,

N = population size,

p = maximum sample size factor (.50),

d = desired tolerance (.05), and

z = factor of assurance (1.645) for 90 percent confidence level (1:11-14).

APPENDIX C

SELECTED COMMENTS RECEIVED FROM SURVEY

AIR FORCE COMMENTS

Comment 1

I feel the recent decision to give a bonus to Architects, Mechanical Engineers, and Electrical Engineers is very hard to swallow. When the bonus is implemented, I will be in a position of working on a project with a fellow officer, doing the exact same job, for which he'll be paid $3,000 more per year than I am. Whereas, I don't feel any ill will toward this officer, and I certainly wouldn't want him to lose his bonus, but the fact that I have been excluded will have a definite bearing on whether I stay in. To say the least, this bonus policy has soured my desire to stay in.

Comment 2

My primary reason for separating is that I do not agree with the career progression in the Civil Engineering career field. I am a mechanical engineer and have attained four years of design and construction experience. As such, I feel I am just reaching the point where I could be considered a competent design engineer and relied upon to make the proper design evaluations and decisions. (This is also

the view of industry, as I am just now at the point where I can apply for professional registration.) However, the Air Force limits further development of my engineering skills, by removing me from design and putting me in a management position. This means a new, less experienced, engineer will take my place and probably make a lot of the same mistakes I did. These mistakes are costly. Also, I will not be there to help train new mechanical engineers.

Comment 3

Much of my dissatisfaction with my career stems from job stagnation. I have been an Environmental Project Officer for nearly three years. Due to manpower difficulties, I will not be able to transfer to any other job area. It disappoints me to think that I may separate from the Air Force in one year and will have been exposed to only a very specialized limited part of the career field.

Comment 4

I recommend that a Professional Engineer Corp concept be adopted. Allow engineers to work in design through the rank of Major or Lt Col before moving them to management. This will allow the Air Force to better benefit from an engineer's experience both directly in design and in the training of new engineers. This would also provide more competent high level managers in the engineering fields when they eventually move up to management.

Comment 5

The lack of opportunities for command would be the main reason for me leaving the Air Force. As a civil engineer, my opportunities to be a commander are basically limited to the squadron level. Base, Combat Support Group, Vice Wing, and Wing Commanders are rarely given to non-rated personnel. The opportunities to make General are extremely limited in numbers and amount of stars attainable. I am an officer first, Civil Engineer second, yet I am limited to what I can do as an officer because I am a Civil Engineer.

Comment 6

My reason for leaving the Air Force at this time is that there seems to be a large amount of incompetency at higher levels. I speak mainly of MAJCOM and Air Force level. These levels seem to have a lack of knowledge of what is involved in engineering processes. One reason for this is that many of these managers progressed through the present Air Force system and did not achieve enough experience at the design and construction level. Another reason is that the Air Force cannot hire the highly qualified people it requires at the salaries it can pay. The amount of technology and money involved makes it imperative that the Air Force hire the best technical managers.

Comment 7

Allow engineers more of an opportunity to gain their master's degrees in their preferred specialties. Today, one must be stationed near a school offering graduate programs or attend AFIT. Of course, if you attend AFIT your commitment is extended. I may sound harsh, but my reasons are valid. While stationed in the states I had the opportunity to obtain my master's degree over a nine-month period. I applied and was accepted. Even though I would have been able to make up the time away from work, during the normal work week, the branch supervisors (civilian) after first saying yes then said no because it was too much time away from the office. My commander was TDY at the time.

Comment 8

My reason for separating is low pay. This problem has been reduced lately; however, it still exists. My current pay, with all allowances and benefits accounted for, is still $10,000 to $20,000 per year short of what I can make in local industry. Pay is not a prime factor, as a challenging and rewarding job are much more important.

NAVY COMMENTS

Comment 1

Right now, my salary ($23,000 w/BAQ, etc.) is from $5000 - $8000 lower than that of my contemporaries on the

outside. My BAQ/VHA goes for substandard Navy housing. If I want to buy a house that I can sell when I transfer, I'm looking at $700 - $1000 monthly payments. However, I cannot make such payments until I'm promoted to 0-2. I want to be able to have a home for my kids, send them to a good school, and give them a sense of belonging to somewhere. This will impact on whether I get out or not.

Comment 2

Primary reason for considering resignation of my commission is that the military pays, promotes (at least to 0-3 or 0-4), and treats marginal performers the same as they treat outstanding performers. Unprofessional, incompetent personnel are afforded the same jobs, pay, and other benefits as the outstanding performers. The leaders today, 0-6 and above, are unwilling to take action to eliminate people who can't or won't perform. This is even more true in the Navy outside the Civil Engineering community. Unqualified line officers seem to abound in the line community. Many of these unqualified people are receiving diving pay, hazardous pay, and huge bonuses. These "monetary rewards" tend to keep the unqualified in the service. They aren't competent for civilian work, while the good performers turn to the civilian community for better pay, working conditions, and a professional environment. I don't enjoy working side by side with incompetent and unprofessional people who make more than I do.

Comment 3

The most important factor concerning making the military a career is whether my wife can have a career on her own also. My wife has a bachelor degree in Business Marketing and Administration. However, should all too frequent moving and too poor job location prevent my wife from developing her career interest, I will leave the Navy for opportunities where both my wife and I can advance and enjoy ourselves.

Comment 4

The reasons I see as the primary reasons for wanting to leave the service:

1. Rules prohibiting the best engineering solutions and lack of knowledge on the part of seniors.

2. Excessive and confusing paperwork associated with the numerous programs which CEC officers must deal with daily.

3. Overburdening of contractors with government specs and boiler plating causing increased job cost.

4. Failure to adequately staff positions/commands to handle the flow of paperwork required for facility planning, construction, and repair.

5. Commanders and seniors who are not aware of what priorities should be set on what types of work. My seniors have given me a list of 30 priority "1" jobs that

have to be done today. I do not have the trained staff to handle all priority jobs which they have assigned. So they don't understand why I can't finish the jobs within one day.

SELECTED BIBLIOGRAPHY

REFERENCES CITED

1. "A Guide for the Development of the Attitude and Opinion Survey." HQ USAF/ACM, Pentagon, Washington DC, October 1974.

2. Albanese, Robert. Managing: Toward Accountability for Performance. Homewood IL: Richard D. Irwin, Inc., 1981.

3. Barton, Robert B., Jr. "Analysis of Company Grade Officer Positions in Air Force Base Civil Engineering and Specific Recommendations for Improvement." Unpublished master's thesis. LSSR 71-81, AFIT/LS, Wright-Patterson AFB OH, September 1981.

4. Behling, D., G. Labovitz, and R. Kosmo. "The Herzberg Controversy: A Critical Reappraisal," Academy of Management Journal, 11 (1968), pp. 98-108.

5. Bendick, Gordon L., USAF, and Captain David J. Jones, USAF. "An Examination of Dual Track Career Management: Current Pilot Attitudes and Cost Analysis." Unpublished master's thesis. LSSR 84-81, AFIT/LS, Wright-Patterson AFB OH, September 1981.

6. Blackburn, Major Ronald L., USAF, and Captain Randall L. Johnson, USAF. "Turnover of Junior Officers." Unpublished master's thesis. LSSR 5-78B, AFIT/LS, Wright-Patterson AFB OH, September 1978.

7. Campbell, Major Herbert G., USAF. "Professionalism and Retention," Air Force Civil Engineer, February 1970, pp. 20-21.

8. Cary, Captain Leo M., USAF, and Captain Stephen A. Huff, USAF. "A Study and Analysis of the Voluntary Loss Rate for Junior Officers in the Transportation (60XX) Career Field." Unpublished master's thesis. SLSR 32-70, AFIT/LS, Wright-Patterson AFB OH, August 1970.

9. Chung, Kae H. Motivational Theories and Practices. Columbus OH: Grid, Inc., 1977.

10. Department of the Air Force, Directorate of Studies and Analysis. "New View," Officer Motivational Study, Vol. II, November 1966, pp. A-5 to A-7.

11. Dunnette, M. D., J. P. Campbell, and M. D. Hakel. "Factors Contributing to Job Satisfaction and Job Dissatisfaction in Six Occupational Groups," Organizational Behavior and Human Performance, 2 (1967), pp. 143-174.

12. Friedlander, F. "Relationships Between the Importance and the Satisfaction of Various Environmental Factors," Journal of Applied Psychology, 49 (1965), pp. 160-164.

13. _____ and N. Margulies. "Multiple Impacts of Organizational Climate and Individual Value Systems Upon Job Satisfaction," Personnel Psychology, 22 (1969), pp. 171-183.

14. Hanson, C. A., and D. K. Hanson. "Motivation: Are the Old Theories Still True?" Supervisory Management, 23 (1978), pp. 9-15.

15. Herzberg, Frederick. "Motivation, Morale, and Money," Psychology Today, March 1968, pp. 42-45.

16. _____. "One More Time: How Do You Motivate Employees?" Harvard Business Review, January-February 1968, pp. 53-62.

17. House, J. Robert, and Lawrence A. Wigdor. "Herzberg's Dual-Factor Theory of Job Satisfaction and Motivation: A Review of the Evidence and a Criticism," Personnel Psychology, 20 (1967), pp. 369-389.

18. Kosmo, R., and D. Behling. "Single Continuum Job Satisfaction vs. Duality: An Empirical Test," Personnel Psychology, 22 (1969), pp. 327-334.

19. Myers, M. S. "Who Are Your Motivated Workers?" Harvard Business Review, 42 (1964), pp. 73-88.

20. Nie, Norman T., et al. Statistical Package for the Social Sciences (SPSS). 2d ed. New York: McGraw-Hill Book Company, 1975.

21. Schwab, D. P., and H. G. Heneman. "Aggregate and Individual Predictability of the Two-Factor Theory of Job Satisfaction," Personnel Psychology, 23 (1970), pp. 55-56.

22. Shenk, Faye, and J. M. Wilbourn. Officer Attitudes Related to Career Decisions. Lackland AFB TX: Personnel Research Division, Air Force Human Resources Laboratory, December 1971.

23. Starcevich, M. H. "Job Factor Importance for Job Satisfaction and Dissatisfaction Across Different Occupational Levels," Journal of Applied Psychology, 56 (1972), pp. 467-471.

24. Thomas, Lieutenant Commander. Civil Engineer Corps Detail/Placement Office (NMPC4413). Letter, subject: Civil Engineer Retention Rates, to Captain Mercer, AFIT/LSA, 20 January 1982.

25. Thompson, Major Richard L., USAF. "The Relationship Between Management and Retention of Scientists and Engineers in the Air Force." Unpublished research report, No. 2480-80. Air Command and Staff College, Maxwell AFB AL, May 1980.

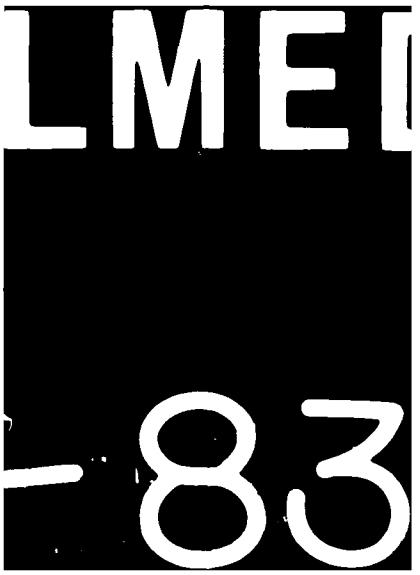
26. Underwood, Major Howard, USAF. Palace Blueprint, HQ AFMPC, Randolph AFB TX. Telephone interview. January 1982.

27. Wallace, Lieutenant John D., USN. To Get the Job Done: Readings in Leadership and Management. Annapolis MD: United States Naval Institute, 1976.

28. Wernimont, P. F. "Intrinsic and Extrinsic Factors in Job Satisfaction," Journal of Applied Psychology, 50 (1966), pp. 41-50.

29. "What Motivates an Executive?" Armed Forces Management, 1968, p. 79.

30. Whichard, Major Willis K. "Problems Associated With Low Retention of Civil Engineering Officers." Unpublished Air Command and Staff College study, Air University, Maxwell AFB AL, May 1974.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-83